QUARTERLY SUMMARY

OF THE

IMPROVEMENTS AND DISCOVERIES

IN THE

MEDICAL SCIENCES.

ANATOMY AND PHYSIOLOGY.

Congenital Malformations of Intestines.

Of all malformations due to arrest or perversion of the normal developmental processes, that which gives rise to the retention of a diverticulum from the ileum, representing the relic of the omphalo-mesenteric duct, is perhaps the most common. In the adult this diverticulum is generally seated about three feet above the ileo-cæcal valve; it springs, as a rule, from the convex surface of the intestine, and is not only formed by walls precisely of the same nature as the bowel, but is generally also furnished with a small fold of serous membrane on one side —a miniature mesentery. In length it varies from half an inch to five or six inches, and in the latter case may be attached to the under surface of the umbilicus, with or without structures representing obliterated omphalo-mesenteric bloodvessels. It is usual to call such diverticula by the name of Meckel, to whom belongs the credit of having (in 1813) first correctly interpreted their nature. Since he wrote it has been generally admitted that he was right in attributing such diverticula to the persistence of a portion of the vitelline or omphalo-mesenteric duct—a structure which in the human fœtus is present only for the first six weeks or so of embryonic life. Naturally one may expect to meet with variations in the form and disposition of such fœtal relics, owing to the supervention of various disturbing influences. A fairly complete but concise account of all the malformations that may so arise is contributed to the last number of Virchow's *Archiv* by Prof. Roth, of Breslau, in which he arrives at the following classification: 1. The ordinary Meckel's diverticulum, which may lie within the abdominal cavity, within a hernial sac, or between the folds of the mesentery—the latter a very rare condition, of which he gives an instance. 2. Adherent diverticulum, either to the umbilicus, by the remains of the omphalo-mesenteric vessels, or more rarely to other parts of the abdominal cavity. 3. Diverticula which, instead of being closed at their free extremity, remain persistently open, the closed end having sloughed away with the separation of the umbilical cord. This opening may be at the umbilicus, forming an intestinal fistula, or in the prolapsed portion of the diverticulum, or in the midst of a fleshy appendage seated at the umbilicus (of which he describes an interesting case), or complicated by hernial prolapse in that region. 4. Peculiar cysts composed of walls reproducing the epithelial and muscular elements of the intestine, and filled with serous-looking fluid. These "entero-cystomata" may retain their connection with the intestine, or they may become detached from it, and even be met with in the thoracic cavity, owing to their formation taking place before the division of the pleuro-peritoneal cavity into two sacs. The following is a brief account of the conditions found by Dr. Roth in two such cases: One was that of a male child sixteen months old, healthy till two months before death, which occurred from gangrene of the pedicle of the cyst and peritonitis. Within the abdomen an oval cyst lay in front of the mesentery and behind the omentum which was adherent to it. It was furnished with a pedicle, eleven millimetres long, attached to the concave border of the ileum, sixty-six centimetres above the ileo-cæcal valve. Through this pedicle communication existed between the bowel and the cyst, which contained not only some brownish-red slimy fluid, pus, blood, and epithelial cells, but starch-granules and muscle-fibres from the ingesta. The cyst was lined by columnar epithelium, villi, and Lieberkühnian follicles, beneath which was a compact submucous layer and a layer of muscular fibres, disposed circularly and longitudinally. The cyst then was nothing but a greatly dilated free extremity of a Meckel's diverticulum, which was itself provided with a short mesentery. The other case was one where a diverticulum occurred within the mesentery parallel to the gut from which it sprang, whilst three distinct cysts occurred elsewhere. A small one, not far from the diverticulum, lay also between the folds of the mesentery, whilst two of much larger size occurred at a distance from their supposed seat of origin—one, namely, behind the peritoneum in the abdomen, the other occupying the posterior mediastinum and compressing the lungs. These two cysts may not have been derived from the ileum, but may have been formed *in loco* by abberant development in the œsophagus or duodenum. But, like the smaller one, they were lined by columnar cells, and had plain muscular fibres in their walls.—*Lancet*, January 21, 1882.

A New Formed Element of Mammalian Blood.

The discovery of a new and important constituent of the mammalian blood has just been announced by a distinguished investigator of blood formation—Professor BIZZOZERO, of Turin. This new element is not the same as the invisible corpuscle of Norris, but presents nevertheless somewhat similar characters. If the course of the circulation is watched in the small vessels in the mesentery of chloralized rabbits and guinea-pigs, there are seen, besides the ordinary red and pale corpuscles, third elements—very pale, oval, or round disk-shaped or lenticular bodies, one-half or one-third the diameter of the red corpuscles, among which they are scattered. "Blutplättchen," Bizzozero proposes to call them. They have hitherto escaped notice, probably because they are so colourless and translucent, less numerous than the red, and less visible than the white corpuscles; and on account of the difficulty of observing the mammalian blood in the course of the circulation with a high magnifying power. They are to be observed also in freshly drawn blood, for the most part aggregated around the colourless corpuscles, or, ascending to the upper layer, they adhere to the cover-glass. They change, however, with great rapidity, rapidly become granular, and appear to be the source of the small granule masses which have been described by many observers. The corpuscles can be preserved unaltered in form for more prolonged examination by certain reagents, as, for instance, by a solution of chloride of sodium tinted with methyl-violet. They are to be found also in human blood, but they undergo alterations with extreme rapidity, and the best method of observing them has been found to be by placing a drop of the above solution over the puncture, and then squeezing the blood out, and immediately examining it under the microscope.